



Grass Tetany and Its Prevention

By Jackie Nix

As Old Man Winter finally loosens his grip, we need to think about protecting cattle against grass tetany. Grass tetany (also called grass staggers, wheat pasture poisoning, and hypomagnesia) is a metabolic disorder. Grass tetany happens most frequently when cattle are grazing lush, immature grass and often strikes the best cows in the herd. This disorder often results in death. Cattle producers collectively lose several million dollars to grass tetany every year.

What are the Symptoms?

Symptoms of grass tetany include: grazing away from the herd, irritability, muscular twitching in the flank, wide-eyed staring, uncoordinated gait, convulsions, coma, and death. It is not uncommon for these symptoms to occur in a span of as little as 2 to 3 hours, making early detection extremely difficult. Often the first observed symptom is a dead cow. If a cow has died of grass tetany evidence of thrashing is usually apparent in the sod around the cow.

What Causes Grass Tetany?

Grass tetany is a metabolic disorder characterized by low blood magnesium levels. The causes of low blood magnesium levels are varied and usually include one or more of the following factors: low dietary magnesium, nutrient imbalances that interfere with magnesium metabolism and high milk production.

Environmental conditions and management factors combine to result in pasture forages with low magnesium levels. Immature grasses and cereal grains have lower magnesium levels than more mature forages. Additionally, cool, wet soil conditions reduce the plant's ability to utilize available magnesium, as do high nitrogen and potassium levels from chemical fertilizers or manure. As a result, pastures receiving fertilization in early spring tend to present a higher risk of grass tetany than pastures fertilized in the fall or late spring. Conversely, inadequate phosphorus levels hinder the plant's ability to absorb magnesium, thus foregoing fertilization is not recommended.

Dietary imbalances also affect susceptibility to grass tetany. Studies have shown that inadequate salt intake may increase susceptibility to grass tetany. Consumption of salt and magnesium simultaneously may be critical to increasing magnesium absorption. Also, feeding high levels of potassium result in reduced magnesium absorption.

Mature cows are more susceptible to grass tetany because the ability to mobilize magnesium from body stores (to correct low magnesium blood levels) decreases with age. Also, mature cows tend to produce more milk, thus increasing their magnesium requirements. The animals hardest hit are mature cows nursing calves less than two months old, particularly heavy milkers. Young cattle, steers and bulls rarely get grass tetany.

When is the Risk of Grass Tetany the Greatest?

The exact time grass tetany strikes will vary from year to year depending upon available moisture and temperature. Grass tetany occurs most frequently in the spring, often following cool (temperatures between 45 and 60°F), rainy weather when grass is growing rapidly, but also is seen in the fall with new growth of cool season grass or wheat pastures. Symptoms are often seen 5 to 10 days after the onset of cold, wet weather.

Prevention of Grass Tetany

Because an outbreak of grass tetany can be so costly, prevention is the best course. Some prevention tactics include: Graze steers, heifers, dry cows and cows with calves over 4 months old on higher risk pastures because these groups are less likely to develop grass tetany. Another option is to feed hay to cattle prior to turning out onto lush pastures for the first 10 to 14 days. In areas where the grass tetany risk is high, provide magnesium to brood cattle in the form of free choice supplements to maintain adequate blood magnesium levels.

When using free choice high magnesium supplements it is important to remember that palatability is key. Adequate levels of magnesium must be consumed on a daily basis in order to protect cattle. Magnesium is naturally unpalatable to cattle so it is important that supplements contain highly palatable ingredients to stimulate consumption. Typically, beef cows require 15 to 20 mg magnesium per head per day. Blood magnesium levels may fall as quickly as 48 hours after supplementation is stopped so consistent consumption of the supplement is critical. For this reason, it is vitally important that you use a supplement with dependable consumption.

Sweetlix[®] offers a wide variety of highly palatable, high magnesium supplement products with proven consistent intake that can help protect your brood cows from grass tetany. Here are a few of the Sweetlix[®] high magnesium cattle supplements available through your local Sweetlix[®] dealer.

Sweetlix[®] CopperHead[®] Hi Mag with RainBloc[®]

- Highly palatable, high magnesium loose mineral supplement with consistent intake
- Same mineral package as the original 6% CopperHead[®] mineral
- Ideal in situations where cattle exhibit multiple signs of copper deficiency
- High quality mineral package ideal for reproductive performance
- Contains proteinated organic trace minerals for enhanced bioavailability

- Added RainBloc[®] for improved resistance to moisture

Sweetlix[®] CopperHead[®] Max 12:4:14 with RainBloc[®]

- Highly palatable, high magnesium loose mineral supplement with consistent intake
- Enhanced levels of phosphorus, copper, zinc and vitamins for optimum cattle performance
- Ideal in situations where cattle exhibit signs of severe copper deficiency
- High quality mineral package ideal for reproductive performance
- Contains proteinated organic trace minerals for enhanced bioavailability
- Added RainBloc[®] for improved resistance to moisture

Sweetlix[®] 8:4:20 Hi Mag Mineral

- Highly palatable, high magnesium loose mineral supplement with consistent intake
- Good for situations in which cattle exhibit few or no signs of copper deficiency
- Good balance of minerals and vitamins needed for reproductive performance

Sweetlix[®] Mol-Mag Pressed Block

- Very palatable, high magnesium block with consistent intake
- Convenient 40 lb block – no mineral feeders required
- Weather-resistant blocks can be placed out in the pasture with cattle
- Ideal for producers with a small number of cattle

In summary, grass tetany outbreaks can be very costly. A palatable high magnesium supplement is one of the cheapest forms of insurance you can buy. For more information about the Sweetlix[®] line of supplement products for cattle and information to help you decide if they will fit into your own management situation, visit your local Sweetlix[®] dealer location, call Sweetlix[®] at 1-87SWEETLIX or visit www.sweetlix.com.

References available upon request.

Jackie Nix is an animal nutritionist with Sweetlix (<http://www.sweetlix.com>). You can contact her at jnix@sweetlix.com or 1-800-325-1486 for questions or to learn more about the Sweetlix line of mineral and protein supplements for cattle, goats, horses, sheep and wildlife.

Updated August 2005